USSN: 10/678,408
Amendment dated: November 10, 2005

REMARKS

This is in response to the official action dated August 10, 2005. Reconsideration in view of the following is respectfully requested.

The examiner suggests that it would have been obvious to simply combine the teachings of the prior art references in order to arrive at the claimed combination. However, applicant pointed out in the specification that neither the boron compounds nor the additives alone possess sufficient antiwear protection. Accordingly, the skilled person would not have been motivated to improve antiwear protection by combining these components. It is quite surprising and unexpected that a combination of the claimed components provides a remarkable improvement in antiwear protection, and there is simply no suggestion or motivation in the prior art to overcome this problem by way of the claimed invention.

The unexpected synergism with respect to antiwear protection is clearly displayed in the extensive test date set forth in the specification.

Page 27, first paragraph, it is explained that while high concentrations of borate ester may provide adequate antiwear protection, lower amounts of borate ester alone lead to significantly inferior antiwear performance (Table A; Table 1, compare tests 1 and 10). Yet, it has now been discovered that contrary to what would be expected from these tests, such low amounts of borate ester can nevertheless be used when combined with claimed additives to provide the synergistic composition.

It is also demonstrated that the additives alone do not provide sufficient protection. Page 28, lines 14-24 and Table 2 and Figure 2, show that the additive Vanlube® 871 thiadiazole compound alone does not provide adequate antiwear protection. Yet, when combined with low amounts of borate ester, excellent results are achieved.

Similarly surprising results are also demonstrated for bisdithiocarbamates (such as Vanlube® 7723 additive) (page 29, line 11-18; Table 4); dithiocarbamates (such as Molyvan® 822 and Vanlube® AZ additives) (page 30, last paragraph; Table 3); and for all of the claimed additives.

Applicant has shown consistently and quite surprisingly, that while the claimed group (2) additives or low amounts of borate ester alone, do not provide sufficient antiwear protection, a synergistic combination of the two components surprisingly provides excellent results. Furthermore, even relatively high levels of borate ester can show improved protection when combined with the additives.

Even at relatively high amounts of borate ester, which may alone provide adequate protection, the addition of the claimed additive provides an even further substantial increase in protection. Note Table 4, test 1, where a 1% borate ester composition alone passes the antiwear test, but allows for an average loss of 23 mg. However, when a similarly high amount (0.9%) of borate ester is combined with only a small amount of additive (tests 8, 14, 36), there is a dramatic drop in the mass loss measurement.

The skilled person looking to increase antiwear protection would have had no motivation to combine borate ester with the claimed additives. Therefore, the claims are not rendered obvious by the cited prior art.

Respectfully submitted,

NORRIS, McLAUGHLIN & MARCUS, P.A.

By _____

Bruce S. Londa
Reg. No. 33,531
875 Third Avenue, 18th Floor
New York, New York 10022